

## CLAIMS

## I Claim

Claim 1. (Presently Amended) A method to generate a compact item descriptor, a machine readable character string, ~~such that two different items that generate the same compact item descriptor are interchangeable, and determine the interchangeability of two items;~~ the method comprising the steps:

~~defining-providing~~ a first item;

~~defining-providing~~ a second item;

~~defining-providing~~ a classification tree which classifies a set of items including the first item and second item ~~such that where the first item and second item two different items that~~ classify to the same leaf node ~~with and the same parameter values if and only if the items are interchangeable or those that do not are not interchangeable;~~

~~adding at each fork of the classification tree a character or sub-string of characters as a label that distinguishes each child branch or leaf of the fork;~~

~~generating a commodity code, a for each branch and leaf of the classification tree~~

~~starting with the commodity code for the root and appending as a suffix a unique~~

~~character or unique sub-string of characters that represent a branch or leaf node at~~

~~each fork such that the resulting character string that uniquely identifies the~~

~~sequence of branches and leaf node selected for the classification of an item~~

~~represented by the leaf node, starting at the root of the classification tree with a~~

~~character string representing the root and systematically appending the label~~

~~representing the branch or leaf selected at each fork to classify the item;~~

~~defining-aordering the set of parameters for each leaf node that complete the description of an item classified at the leaf node and encode-encoding the possible value for each parameter as a string of predefined length in the ordered parameter~~

~~sequence as a character or string of characters such that where the parameter~~

~~values for an item classified at the leaf node are represented as a character string;~~

~~defining-generating the compact item descriptor for an item as the commodity code for the item concatenated with the encoded parameter values for the item;~~

~~generating the compact item descriptor for the first item;~~

~~generating the compact item descriptor for the second item;~~

comparing the compact item descriptor for the first item with the compact item descriptor for second item where the two compact descriptors are the same and the items are interchangeable or the compact item descriptors are different and the items are not interchangeable.

~~such that the first item and second item are interchangeable if and only if the compact item descriptor for the first item is the same as the compact item descriptor for the second item.~~

Claim 2. (Presently Amended) The compact item descriptor of claim 1 and a materials planning system and/or Approved Manufacturer list provide database providing an entry including an item part number and item description field for the first item wherein the item part number for the first item is stored as the item part number and the compact item descriptor for the first item is stored in the item description field of the materials planning system and/or the Approved Manufacturer List database entry; such that and, the database item description field is queried using the compact item descriptor of the first item as the query argument and the database returns the item part number for the first item as the response to the query.

Claim 3. (Presently Amended) The compact item descriptor of claim 1, ~~and a catalog database, and where the interchangeable first item and second item are interchangeable and thus, the compact item descriptor for the first item is the same as the compact item descriptor for the second item; and where the catalog database provides an entry for the first item comprising an item description field containing the compact item descriptor for the first item, supplier name, and supplier part number for the first item; such that and, the catalog database item description fields are is queried with the compact item descriptor for the second item and the catalog database responds with the supplier name and supplier part number for the first item.~~

Claim 4. (Presently Amended) The compact item descriptor of claim 1 and a catalog database wherein the catalog database provides an entry for the first item comprising an item description field containing the compact item descriptor for the first item, the supplier name, and the supplier part number for the first item; such that and, the catalog database is queried with the supplier name and the supplier part number for the first item and the catalog database responds with the compact item descriptor for the first item.

Claim 5. (Presently Amended) The compact item descriptor of claim 1, a materials planning system and/or the Approved Manufacturer List first database, and a catalog

~~second database wherein the materials planning system and/or the Approved Manufacturer List~~first database provides an entry comprising a part number for the first item and an item description field; and the ~~catalog~~second database provides an entry for the first item comprising the supplier name, the supplier part number, and compact item descriptor in the description field for the first item where the ~~catalog~~second database is queried with the supplier name and the supplier part number of the first item, the ~~catalog~~second database responds with the compact item descriptor of the first item, and the compact item descriptor for the first item is stored in the item description field of the first item in the materials planning system and/or the Approved Manufacturer List~~first database~~ for the item such that the materials planning system and/or the Approved Manufacturer List relates the part number of the first item with the compact item descriptor for the first item as the item description.

Claim 6. (Presently Amended) The compact item descriptor of claim 1 ~~where and interchangeable the first item and second item are interchangeable and thus, the compact item descriptor for the first item is the same as the compact item descriptor for the second item; and an Approved Manufacturer List, AML~~database, providing an entry comprising a part number, an item description field containing the compact item descriptor for the first item, a supplier name, and a supplier part number for the first item; and wherein the AML database is queried with the compact item descriptor of the second item as the item description argument and the ~~AML~~database responds with the supplier name and the supplier part number for an interchangeable item, the first item.

Claim 7. (Presently Amended) The compact item descriptor of claim 1, ~~where the interchangeable first item and second item are interchangeable and thus, the compact item descriptor for the first item is the same as the compact item descriptor for the second item; and an Approved Manufacturer List, AML, first database~~ providing an entry comprising a part number, an item description field containing the compact item descriptor for the first item, the supplier name and the supplier part number for the first item and a catalog~~second database~~ providing an entry comprising an item description field containing the compact item descriptor of the second item, the supplier name and supplier part number for the second item wherein the catalog~~second database~~ description fields are is queried with the compact item descriptor for the first item and the ~~catalog~~second database responds with the supplier name and supplier part number for an interchangeable item, the

~~second item; and the supplier name and supplier part number for the second item are stored as an interchangeable supplier name and the supplier part number in the AML for the part number.~~

Claim 8. (Presently Amended) The compact item descriptor of claim 1, where ~~the interchangeable first item and second item are interchangeable and thus, the compact item descriptor for the first item is the same as the compact item descriptor for the second item;~~ and a catalog database providing an entry comprising an item description field containing the compact item descriptor for the first item, a supplier name, and a supplier part number for the first item wherein the catalog database item descriptor fields are is queried with the compact item descriptor for the second item and the supplier name for the first item and the catalog database responds with supplier part number for an interchangeable the first item, the first an interchangeable item from the specified supplier with the supplier name.

Claim 9. (Cancel)

Claim 10. (Presently Amended) The compact item descriptor of claim 1 and a catalog database providing for the first item, a supplier name, supplier part number, and an item description field containing the first compact item descriptor and the catalog database item description fields are is queried with a compact item descriptor including a Standard Query Language, SQL, wild card character to partially specify a compact item descriptor where the first compact item descriptor matches the partially specified compact item descriptor and the catalog database responds with the supplier name and supplier part number of the first item.

Claim 11. (Presently Amended) The compact item descriptor of claim 1 and a catalog database providing for the first item a description field containing the compact item descriptor ~~of the first item~~, a supplier name, and a core supplier part number wherein the catalog database description fields are is queried with the compact item descriptor for the first item and supplier name and the catalog database responds with the core supplier part number for the first item and a supplier suffix table is queried with the supplier name and a manufacturing process requirement, ~~including carrier,~~ and the supplier suffix table responds with the modification to the core supplier part number such that the resulting supplier part number corresponds to a first item that meets the manufacturing process requirement.

Claim 12. (Withdrawn) A method for generating compact item descriptor, a machine readable character string, describing an item such that two different items generating the same compact item descriptor are interchangeable, the method comprising the steps:

define a first item;

define a second item;

define a classification tree for a set of items including the first item and second item such that the first item and second item classify to the same leaf node with the same parameter values if and only if the items are interchangeable;

define a commodity code, a character string, for each leaf node that uniquely identifies the leaf node;

define a set of parameters for each leaf node that complete the description of an item classified at the leaf node and encode the value for each parameter as a character or string of characters such that the parameter values for an item classified at the leaf node are represented as a character string;

defining the compact item descriptor for an item as the commodity code for the item concatenated with the encoded parameter values for the item;

such that the first item and second item are interchangeable if and only if the compact item descriptor for the first item is the same as the compact item descriptor for the second item.

Claim 13. (Withdrawn) The compact item descriptor of claim 12 and a materials system and/or Approved Manufacturing List, AML, providing an item description field containing the compact descriptor of the first item and a part number wherein the item description field of the materials system and/or AML is queried with the compact item descriptor for the first item and the materials system and/or AML responds with the part number.

Claim 14. (Withdrawn) The compact item descriptor of claim 12 and a catalog, where the first item and second item are interchangeable and thus, the compact item descriptor for the first item is the same as the compact descriptor for the second item; and the catalog provides an item description field containing the compact descriptor of the first item, a supplier name, and supplier part number wherein the catalog item description fields are queried with the compact item descriptor for the second item and supplier name and the catalog responds with the supplier part number of an interchangeable item, the first item, from the specified supplier.

Claim 15. (Withdrawn) The compact item descriptor of claim 12 and a catalog providing an item description field containing the compact descriptor of the first item, a supplier name, and supplier part number wherein the catalog item description fields are queried with the compact item descriptor for the first item and the catalog responds with the supplier name and the supplier part number of the first item.

Claim 16. (Withdrawn) The compact item descriptor of claim 12 and a catalog providing an item description field containing the compact descriptor of the first item, a supplier name, and a core supplier part number wherein the catalog item description fields are queried with the compact item descriptor for the first item and supplier name and the catalog responds with the core supplier part number for the first item and a supplier suffix table is queried with the supplier name and a manufacturing process requirement, including carrier, and the supplier suffix table responds with the modification to the core supplier part number such that the resulting supplier part number for the first item meets the manufacturing process requirement.

Claim 17. (Withdrawn) The compact item descriptor of claim 12 and a catalog providing for the first item, a supplier name, supplier part number, and an item description field containing the first compact item descriptor and the catalog item description fields are queried with a compact item descriptor that includes a Standard Query Language, SQL, wild card character to partially specify a compact item descriptor where the compact descriptor of the first item matches the partially specified compact item descriptor and the catalog responds with the supplier name and supplier part number of the first item.

Claim 18. (Cancel)

Claim 19. (Cancel)

Claim 20. (Cancel)

Claim 21. (Withdrawn) A catalog system providing a compact item descriptor, a machine readable character string, wherein two different items are interchangeable if and only if their compact item descriptors are equal, comprising:

a catalog means providing for an item an item description field containing the compact descriptor for the item, a supplier name and a supplier part number for the item;

a first query means providing a query of the catalog item description fields with a compact item descriptor and the catalog returns the supplier name and the supplier

part number for those items where the description field matches the compact item descriptor;

a classification tree means providing classifications for a set of items including a first item and a second item such that the first item and second item classify to the same leaf node with the same parameter values if and only if the items are interchangeable;

a commodity code means providing a unique character string for each leaf node of the classification tree that identifies the leaf node;

an encoded parameter value means providing for each leaf node a set of parameters that complete the description of an item classified at the leaf node and encode the value for each parameter as a character or string of characters such that the parameter values for an item classified at the leaf node are represented as a character string;

a compact item descriptor means providing for an item, classification of the item using the classification tree means and a compact descriptor for the item comprising the commodity code for the leaf node for the classified item concatenated with the encoded parameter values for the item;

such that:

a first item and second item are interchangeable;

the first item is provided a first compact item descriptor from the compact descriptor means;

the second item is provided a second compact item descriptor from the compact descriptor means that, since the items are interchangeable, is the same as that for the first item;

the catalog means provides for the first item: an item description field containing the first compact descriptor, the supplier name for the first item, and the supplier part number for the first item;

wherein the catalog item description fields are queried with the second compact item descriptor and the catalog returns the supplier name and the supplier part number for an interchangeable item, the first item.

Claim 22. (Withdrawn) The catalog and compact item descriptor of claim 21, wherein the catalog item description fields are queried with a compact item descriptor that includes a

Standard Query Language, SQL, wild card character to partially specify a compact item descriptor where the compact descriptor of the first item matches the partially specified compact item descriptor and the catalog responds with the supplier name and supplier part number of the first item.

Claim 23. (Withdrawn) The catalog and compact item descriptor of claim 21, further provides:

a supplier suffix means when queried with the supplier name and a manufacturing process requirement, including carrier, the supplier suffix means responds with the modification to the core supplier part number such that the resulting supplier part number for the first item meets the manufacturing process requirement; the catalog means further provides an item description field containing the compact descriptor of the first item, a supplier name, and a core supplier part number; such that the catalog item description fields are queried with the compact item descriptor for the first item and supplier name and the catalog responds with the core supplier part number for the first item and the supplier suffix means is queried with the supplier name and manufacturing process requirement and the modification to the core supplier part number results in a supplier part number for the first item that meets the manufacturing process requirement.

Claim 24. (Withdrawn) The catalog and compact item descriptor of claim 21, wherein the catalog further provides a second query means providing a query of the catalog item description fields with a compact item descriptor and a supplier name and the catalog returns the supplier part number for those items where the description field matches the compact item descriptor such that the catalog is queried with the compact item descriptor for the second item and the supplier name for the first item and the catalog responds with the supplier part number for an interchangeable item, the first item, provided by the supplier.

Claim 25. (New) A method to generate a compact item descriptor, a machine readable character string, the method comprising the steps:

providing a first item;  
providing a classification tree which classifies a set of items including the first item where two different items that classify to the same leaf and same parameter values are interchangeable or those that do not are not interchangeable;



adding at each fork of the classification tree a character or sub-string of characters as a label that distinguishes each child branch or leaf of the fork;  
generating a commodity code, a character string that uniquely identifies the sequence of branches and leaf selected for the classification of an item represented by the leaf, starting at the root of the classification tree with a character string representing the root and systematically appending the label representing the branch or leaf selected at each fork to classify the item;  
ordering the set of parameters for each leaf that complete the description of an item classified at the leaf and encoding the value for each parameter as a string of predefined length in the ordered parameter sequence such that the parameter values for an item classified at the leaf are represented as a character string;  
generating the commodity code for the first item;  
encoding the parameter values at the leaf for the first item;  
generating the compact item descriptor for the first item as the commodity code for the first item concatenated with the encoded parameter values for the first item.

Claim 26. (New) The method of claim 25 and a second item where the classification tree classifies the second item; the method further provides:

generating the compact descriptor for the second item;  
comparing the compact descriptor for the second item with the compact descriptor for the first item;  
determining the interchangeability of the first item and second item where the compact descriptors are the same and the items are interchangeable or the compact descriptors are different and the items are not interchangeable.

Claim 27. (New) The compact item descriptor of claim 25 and a second item where the second item is interchangeable with the first item and the classification tree classifies the second item, and a database with an entry for the first item comprising an item description field containing the compact item descriptor for the first item, supplier name, and supplier part number for the first item; the compact item descriptor for the second item is generated; wherein, the database item description field is queried with the compact item descriptor for the second item and the database responds with the supplier name and supplier part number for the first item.

Claim 28. (New) The compact item descriptor of claim 25 and a database providing for the first item, a supplier name, supplier part number, and an item description field containing the first compact item descriptor and the database item description field is queried with a compact item descriptor including a Standard Query Language, SQL, wild card character to partially specify a compact item descriptor where the first compact item descriptor matches the partially specified compact item descriptor and the database responds with the supplier name and supplier part number of the first item.

Claim 29. (New) A method to encode the classification of an item into a machine readable character string where two items with the same classification encode the same string or two items with different classifications encode different strings, the method comprising:

- providing a first item;
- providing a second item;
- providing a classification tree with leaf parameter values as elements of the classification where the classification tree classifies a set of items including the first item and second item;
- adding at each fork of the classification tree, a character or sub-string of characters as a label that distinguishes each child branch or leaf of the fork;
- generating a commodity code, a character string that uniquely identifies the sequence of branches and leaf selected for the classification of an item represented by the leaf, starting at the root of the classification tree with a character string representing the root and systematically appending the label representing the branch or leaf selected at each fork to classify the item;
- ordering the set of parameters for each leaf that complete the description of an item classified at the leaf and encoding the value for each parameter as a string of predefined length in the ordered parameter sequence such that the parameter values for an item classified at the leaf are represented as a character string;
- generating the commodity code for the first item;
- encoding the parameter values at the leaf for the first item;
- generating the encoded classification for the first item as the commodity code for the first item concatenated with the encoded parameter values for the first item;
- generating the commodity code for the second item;
- encoding the parameter values at the leaf for the second item;

generating the encoded classification for the second item as the commodity code for the second item concatenated with the encoded parameter values for the second item;

comparing the encoded classification for the first item with the encoded classification for the second item where the first item and second item classify to the same leaf with the same parameter values and the encoded classifications are the same or the first item and second item do not classify to the same leaf with the same parameter values and the encoded classifications are different.

Claim 30. (New) The encoded classification of claim 29 where the first item and second item classify to the same leaf with the same parameter values and a database with an entry for the first item comprising an item description field containing the encoded classification for the first item and an associated field for the first item; wherein, the database item description field is queried with the encoded classification for the second item and the database responds with the associated field for the first item.

Claim 31. (New) The encoded classification of claim 29 and a database providing for the first item, an item description field containing the encoded classification for the first item and an associated field and the database item description field is queried with an encoded classification including a Standard Query Language, SQL, wild card character to partially specify a encoded classification where the encoded classification for the first item matches the partially specified encoded classification and the database responds with the associated field for the first item.